REMARKS

Claims 1-12 are now present in this application.

Claim 1 has been amended, and claims 10-12 have been presented. Reconsideration of the application, as amended, is respectfully requested.

Claims 1 and 8 stand rejected under 35 USC 102(b) as being anticipated by BACCHETTA et al., U.S. Patent 5,627,403. This rejection is respectfully traversed.

Claim 7 stands rejected under 35 USC 103 as being unpatentable over BACCHETTA. This rejection is respectfully traversed.

Claims 2 and 3 stand rejected under 35 USC 103 as being unpatentable over BACCHETTA in view of HIGASHITANI et al., U.S. Patent 6,346,737. This rejection is respectfully traversed.

Claims 4-6 stand rejected under 35 USC 103 as being unpatentable over BACCHETTA in view of WOLFF et al., "Silicon Processing for the VLSI Era Volume 1: Process Technology." This rejection is respectfully traversed.

Claim 9 stands rejected under 35 USC 103 as being unpatentable over BACCHETTA in view of SUNG, U.s. Patent 6,235,592. This rejection is respectfully traversed.

Independent claim 1 recites ``wherein the interconnect structure comprises a metal interconnect layer and a substantially planarized inter-layered dielectric layer over the surface of the semiconductor substrate covering the metal interconnect layer''. The

substantially planarized inter-layered dielectric layer is disclosed in the specification (see page 7, lines 27-31) and FIG. 2E, for example. The inter-layered dielectric layer is made of hydrogen blocking oxide (HBO), as shown in Tables 1 and 2.

BACCHETTA does not teach or suggest a substantially planarized interlayer dielectric layer over the surface of the semiconductor substrate covering the metal interconnect layer.

It is respectfully submitted that BACCHETTA teaches away from the present application because BACCHETTA teaches an ***oxide thin layer*** (about 350Å thick) to improve adhesion between two dielectric layers. At most, BACCHETTA discloses a thin oxide layer interposed between a first SiN or SiON and a second SiON to serve as an adhesion layer. The present application, however, does not need the first SiN or SiON, and thus the adhesion layer is not necessary in the present application. The purpose and motivation of the ***oxide thin layer*** taught by BACCHETTA are different from the thick high density plasma (HDP) deposited oxide in the present application. Moreover, the HDP oxide of the first dielectric layer as claimed in claim 1 provides excellent gap-filling ability. The first SiN or SiON disclosed in BACCHETTA with poor gap filling ability can cause device failure as processes scale down.

The dependent claims recite additional features, which are also allowable over the prior art of record.

For example, newly presented claim 10 recites "the first dielectric layer is thicker than or equal to the silicon-oxy-nitride (SiOxNy) layer". The thickness is between 7000-10000Å, more preferably, 8000Å (page 8, lines 2-3). The preferred thickness of the silicon-oxy-nitride layer 114 is between 4000 to 7000Å and a more preferred thickness is about 4000Å (page 8, lines 11-13). However the first dielectric layer disclosed by BACCHETTA is thinner than the silicon-oxy-nitride (SiOxNy) layer (col. 5 lines 64-67). It is respectfully submitted that the limitation "the first dielectric layer is thicker than or equal to the silicon-oxy-nitride (SiOxNy) layer" is not obvious in view of BACCHETTA.

Also, newly presented claim 11 recites "at least one of the first dielectric layer, the silicon-oxy-nitride (SiOxNy) layer, or the second dielectric layer comprises a substantially planarized surface", because the first dielectric layer, the silicon-oxy-nitride (SiOxNy) layer, and the second dielectric layer are formed on the substantially planarized inter-layered dielectric layer. This feature is not seen in BACCHETTA.

The secondary references utilized by the Examiner fail to overcome the deficiencies of the primary reference to BACCHETTA.

Accordingly, the method of independent claim 1, as well as its dependent claims, is neither taught not suggested by the prior art

utilized by the Examiner. Reconsideration and withdrawal of the 35 USC 102(b) and 103 rejections are respectfully requested.

Favorable reconsideration and an early Notice of Allowance are earnestly solicited.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants respectfully petition for a one (1) month extension of time for filing a response in connection with the present application and the required fee of $110.00 is attached herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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